

Battle Force Capabilities / Mission Capabilities Packages

For the Interoperability Workshop



**N70
Warfare
Integration
& Assessment**

29 May 2001

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The briefing and its attachments are UNCLASSIFIED

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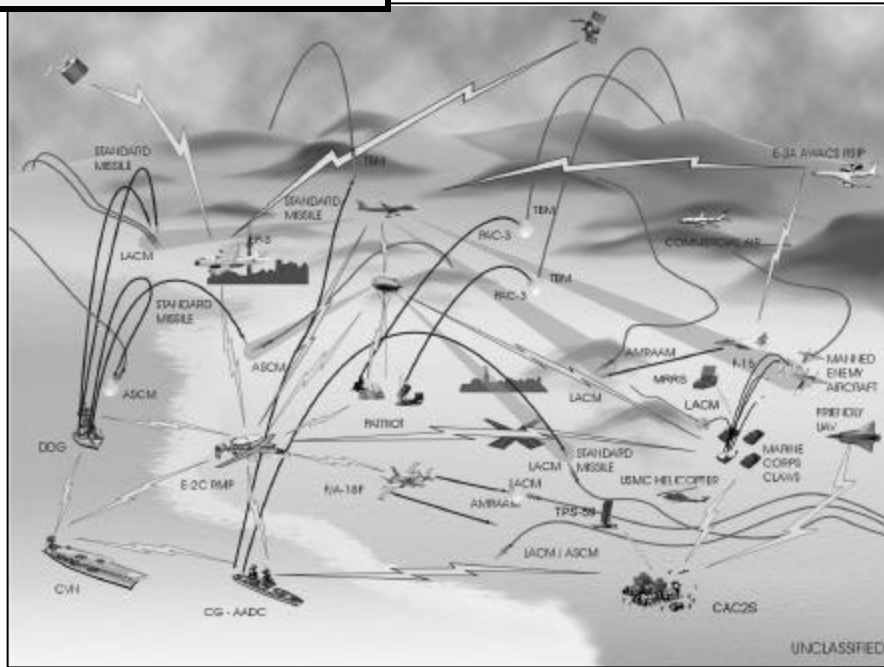
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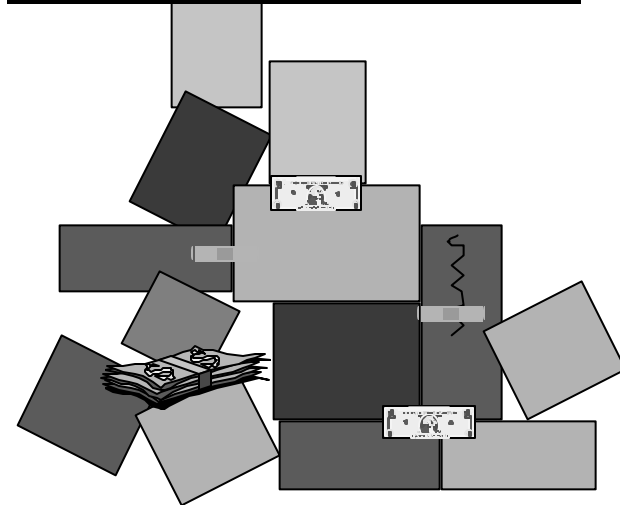
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What's Wrong

What We Want ...



... And How We're Trying To Get There Today



- Fundamental, systemic interoperability problems persist in POR systems
- Focus is still on systems and platforms vice capabilities
- Uncoordinated, non-synchronized decision processes
- Inconsistent information sources and decision products
- Many authorities / stakeholders not linked to key processes / decisions
- Confusion over “Who’s in charge” a recurring theme throughout
- Need for architectures repeatedly asserted

Key Processes Affecting the End-State

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Key processes

Reqmnts Gen & Analysis

Capability Planning / Analysis

Opnl Concept Expl & Dev

R&D / Tech Innovation

Resources PP&B

Systems Engineering

Program Mgmnt

Configuration Control

Acquisition

Related Activities

M&S / Lab / Live T&E
and Experimentation

Analysis & Assessment

Planning

Tracking & Oversight

Tradeoffs
(Risk, Capability, Engineering)

DoD, Navy/Joint/Allied Customers & Users, OPNAV, SYSCOMs, PEOs, PMs

- Multiple Stakeholders, Process Owners, Decision Authorities
- Different domains, agendas, objectives, incentives, metrics, frameworks

Summary Process Assessment

Reqmnts Gen & Analysis		○	●	●	●	○	○	×
Capability Planning / Analysis	○		●	×	●	○	×	○
Opnl Concept Expl & Dev	●	○		○	○	●	○	×
R&D / Tech Innovation	●	×	○		○	●	○	×
Resources PP&B	●	●	×	●		○	●	○
Systems Engineering	○	×	○	●	○		●	●
Program Mgmt	●	×	○	○	●	●		●
Configuration Control	×	○	×	×	×	●	●	

Many processes / links
"broken" or ineffective

But ...

Lots of good work converging
on some dominant issues

Dominant Process Issues

- Inconsistent analytic frameworks and metrics
- Non-integrated requirements (platform vs battle force / FOS focus)
- Inconsistent, nonintegrated tradeoff processes and objectives (Risk, fiscal, capability, engineering, etc.) and feedback
- No unifying context

The status quo won't get us there

Just How "Bad" Is It?

- Not a "war-losing" condition, but ...
 - Operational confusion, delayed or errant decisions
... when we need clarity and precision
 - Longer operational planning & execution timelines
... when we need to shorten them
 - Smaller engagement envelopes
... when we expected (paid for) much more
 - Increased cost-of-ownership and time-to-market
... when we're trying to be more nimble and efficient
- It's taken a long time for us to get into the state we're in today ...
... and it will take some time just to see improvement
- No one organization owns the key to a solution
- No single action or decision, from anyone, will get us out of this

Who's "Doing" Architecture-Related Work Today?

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IWAR

CNA

JROC / JWCA

JTAMDO

ASD(C3I)

USJFCOM

SEA 05

ASN(RDA) CHENG

J38

SIAP SE

NIMA

J6

Organizational changes (alone) have not (yet) been effective.

NRO

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Much valuable architecture work underway, but ...

N75

- Mostly uncoordinated, non-integrated or incomplete
- Generally, platform / system focused (changing slowly)
- Inconsistent terms, fidelity, formats, tools, data models
- Non-compliant with OSD Architecture Framework
- Mostly ineffective (i.e., "powerless", irrelevant) documents
- Who integrates? Who validates? Who approves?
- What important decisions do they affect?

N6

N2

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No coherent Navy, Joint, DoD "view"

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SPAWAR

NAVSEA

PEO

MCCDC

N7

N4

NAVSECGRU

NAVAIR

PMA / PMS

MCSC

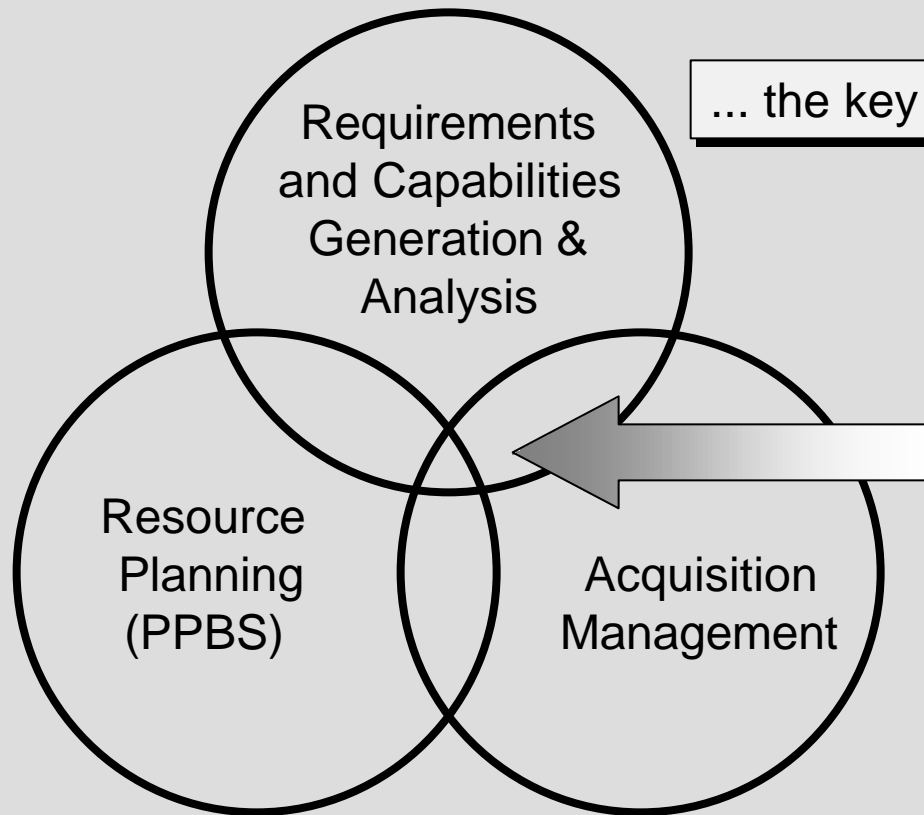
If We're Going to Effect Process Changes ...

We must answer the following questions

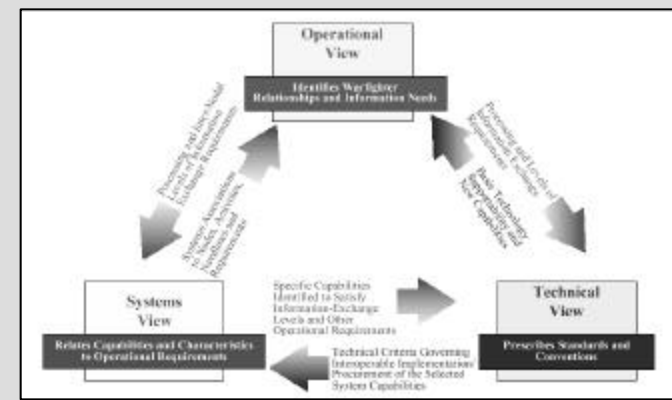
- What are the relevant domains / processes?
- Who are (should be) ...
 - Stakeholders?
 - Process owners?
 - Decision makers?
- What relevant decisions to affect / effect, and when?
- How to support decisions?
 - What data, frameworks, methods, processes, tools, products?
- How to influence decisions?
 - Acquire decision authority?
 - Advise decision makers?

What We're Proposing

How to Bring Together ...



... the key DoD Decision Support Systems ...



... Within An Integrated Architecture Framework

Note: This is not just C4ISR

Objective: Make milestones and other important program planning decisions depend on compliance with validated and approved integrated architectures

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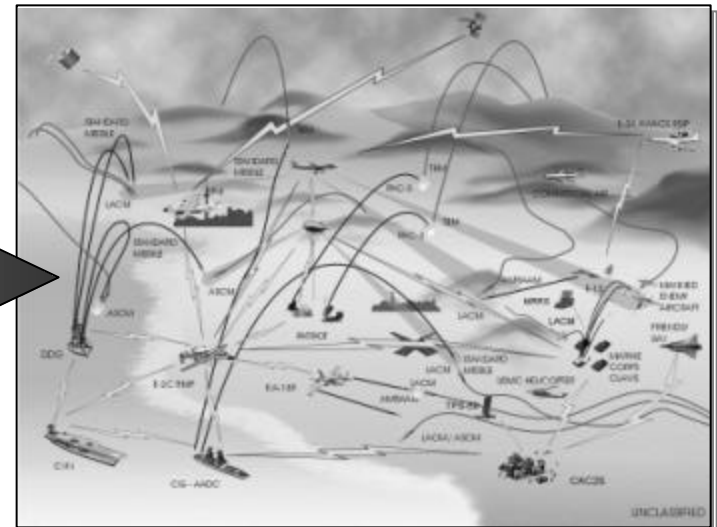
Use Mission Capability Packages (MCPs) as the focus of integration

What's a MCP?

- Introduced by the concept of Network Centric Warfare / Operations
- A Task-Organized Bundle of ...
 - CONOPS, processes and organizational structures
 - Networks, sensors, weapons and systems
 - The people, training and support services to sustain it

A MCP treats all of the above not as a collection of things and processes -
- but as an integrated system

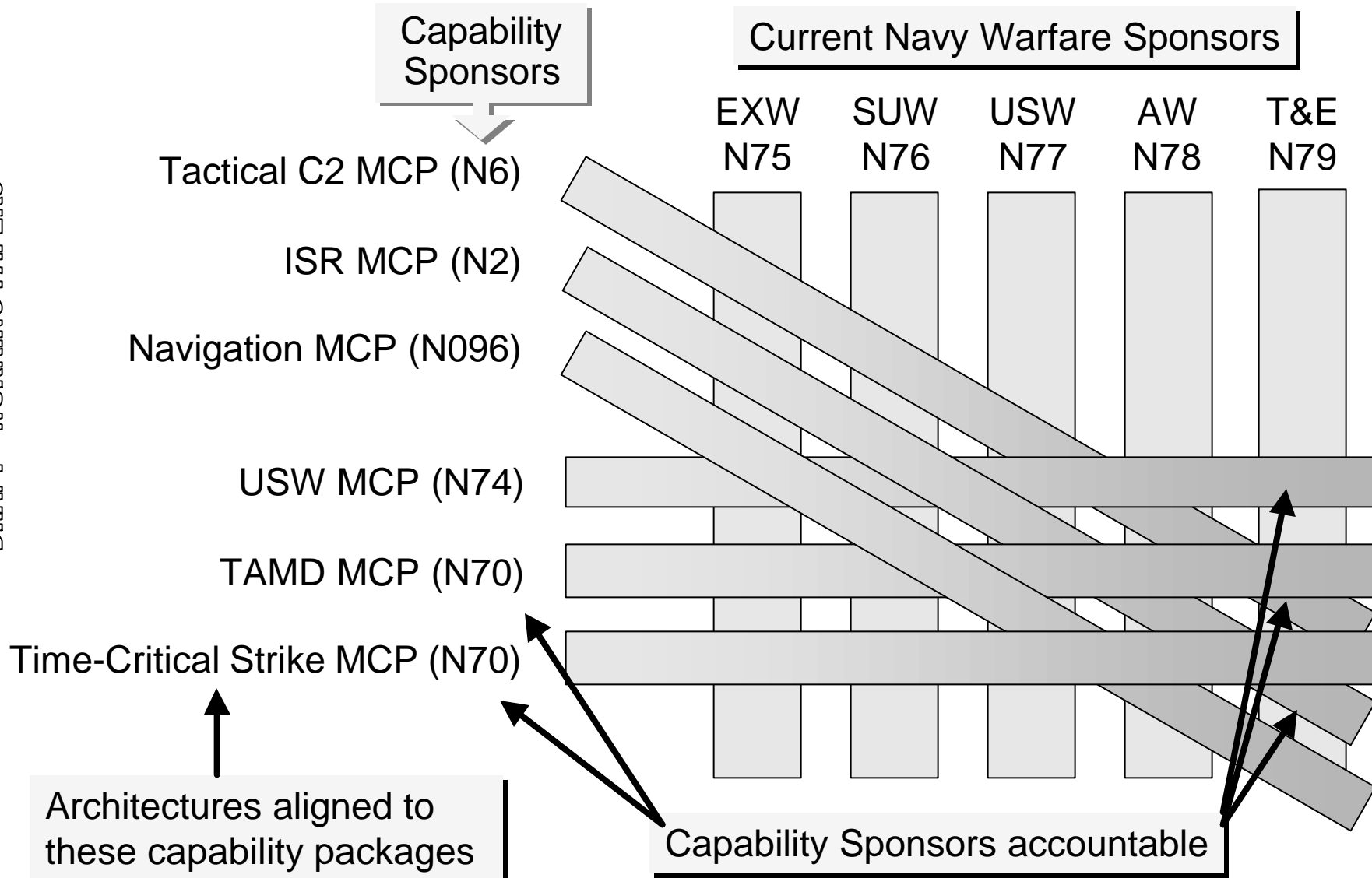
Architectures should be based on (describe) MCPs



MCP ~ Joint Staff Joint Mission Area (JMA), DoD Portfolio

Example Mission Capability Packages (MCPs) as "Slices" Through the Platform/System Domain

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The Mechanisms For Change

- The Principal Output =
Battle Force Capabilities
- The Principal Mechanisms for Integration =
Integrated Architectures
- The Principal Mechanisms for Achieving Alignment =
Mission Capability Packages

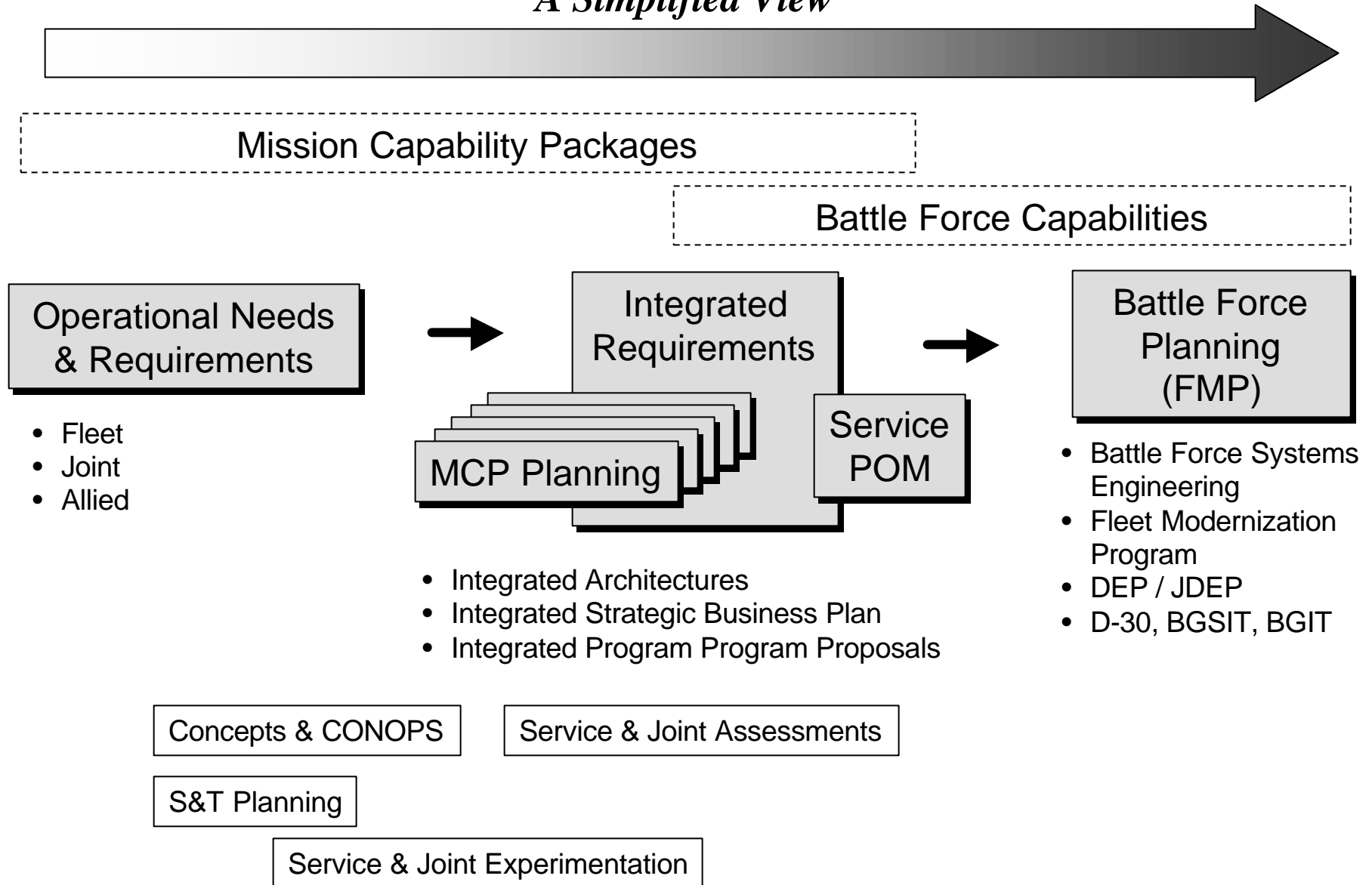
The Principal Navy Stakeholders

- OPNAV (CNO, N8, N7, sponsors)
- Fleet
- ASN(RDA) Chief Engineer
- NWDC
- ONR
- PEOs and SYSCOMs

Changes To The Status Quo

A Simplified View

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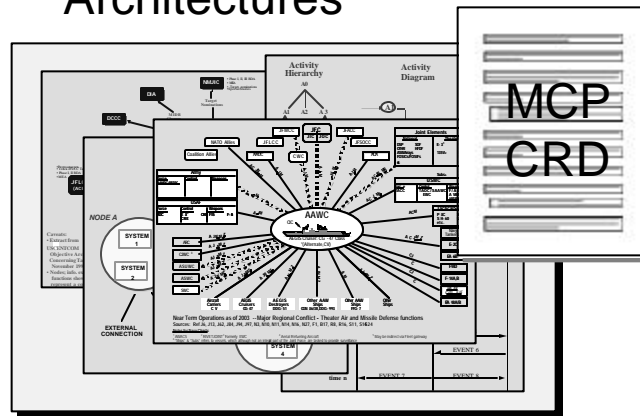
Key Elements of the MCP Planning Process

MCP Requirements Integration

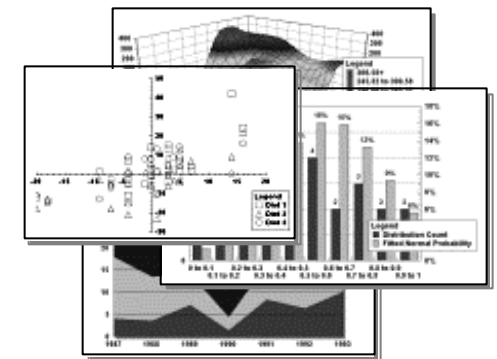
Concepts & CONOPS



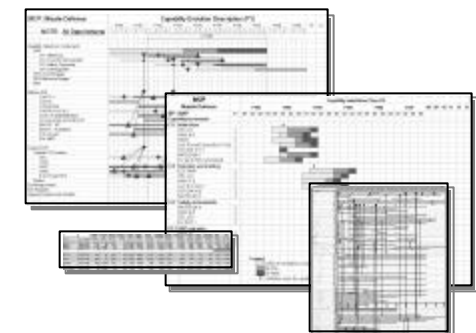
Integrated Architectures + CRDs



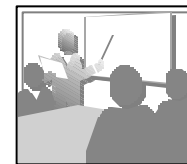
System-of Systems AOA



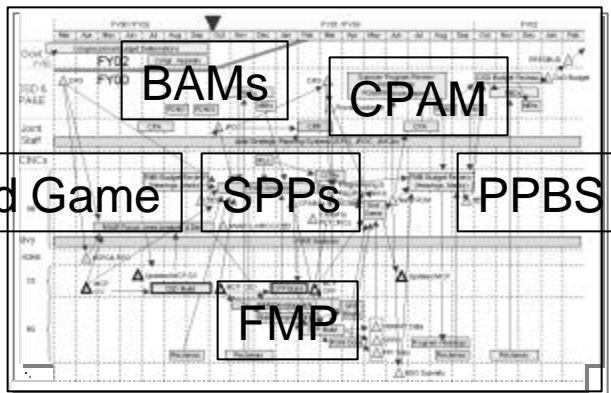
Integrated Strategic Business Plan (ISBP)



NROC / CEB



End Game SPPs PPBS



[Detail / Explanation]

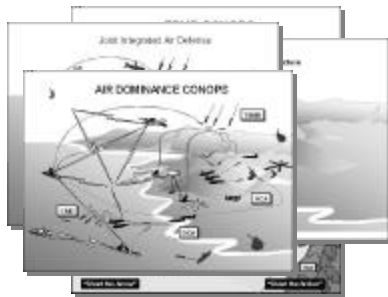
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Key Elements of the MCP Planning Process

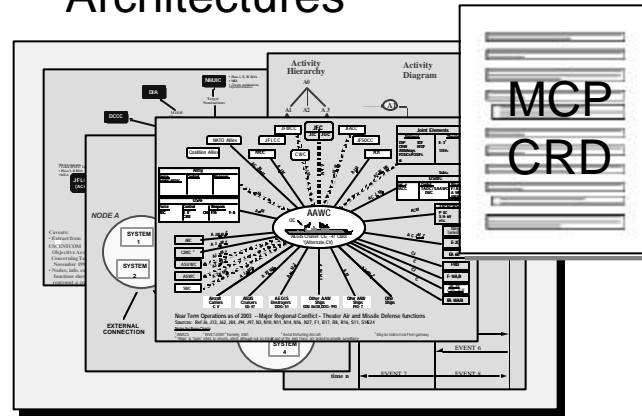
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MCP Requirements Integration

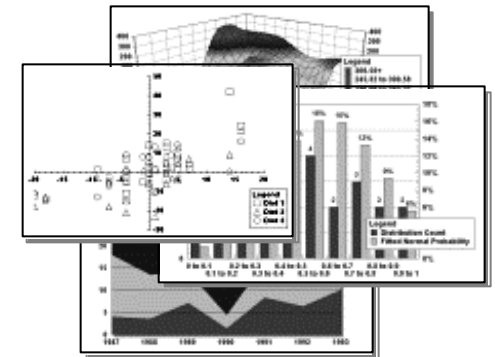
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Integrated Architectures + CRDs



System-of Systems AOA



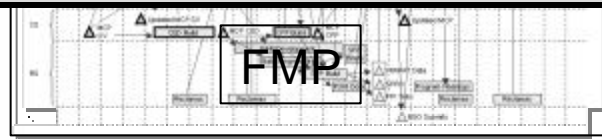
Integrated Strategic Business Plan



What we are actually trying to do (accomplish)

- What are our operational objectives?
- What time frame (in the future)?
- What circumstances (situations, environments)?
- How do we propose to (operationally) do it?

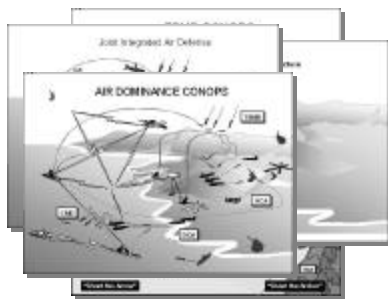
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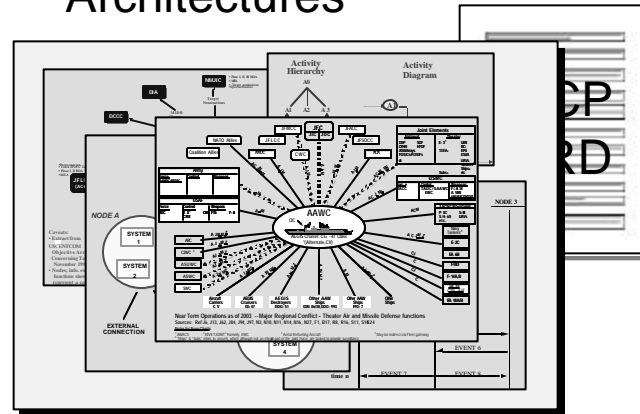
Key Elements of the MCP Planning Process

MCP Requirements Integration

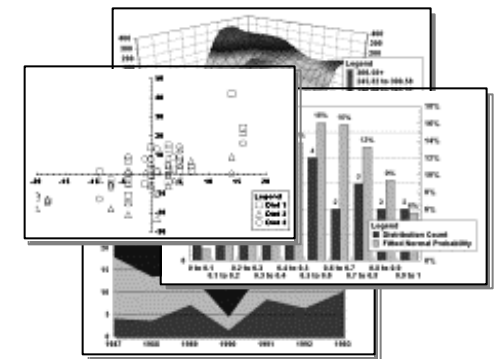
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Integrated Architectures + CRDs



System-of Systems AOA



Requirements analysis and the resulting Architecture

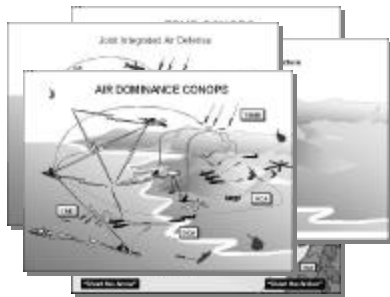
- Who are the actors (participants, nodes)?
- What specific tasks (activities) must the actors perform to accomplish our objectives?
- What is each task's relative importance (criticality) to the objectives?
- How are the actors organized?
- Who connects to whom (interfaces)? Under what circumstances?
- What key pieces of information must the actors share (pass, process)?

Key Elements of the MCP Planning Process

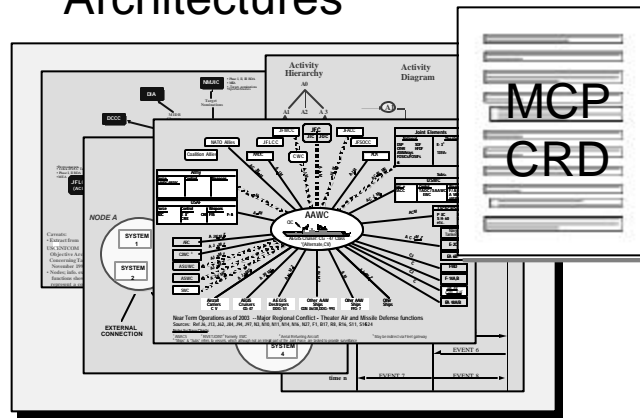
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MCP Requirements Integration

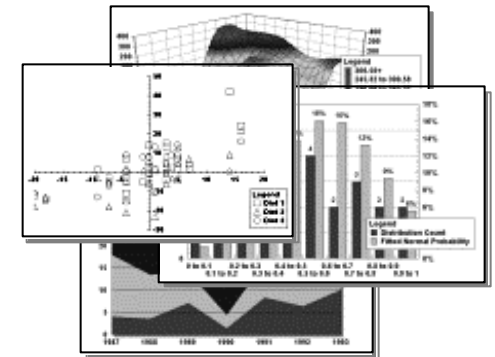
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Integrated Architectures + CRDs

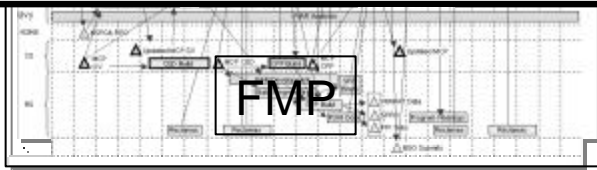


System-of Systems AOA



Document the operational requirements for a system-of-systems capability

- The desired operational capability
- The threat
- Operational/requirements gaps, misalignments
- Operational and interoperability key performance parameters

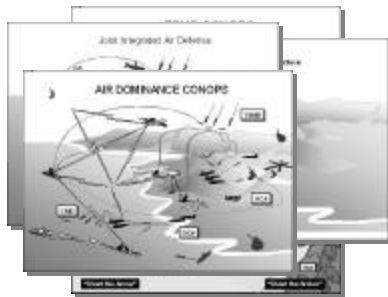


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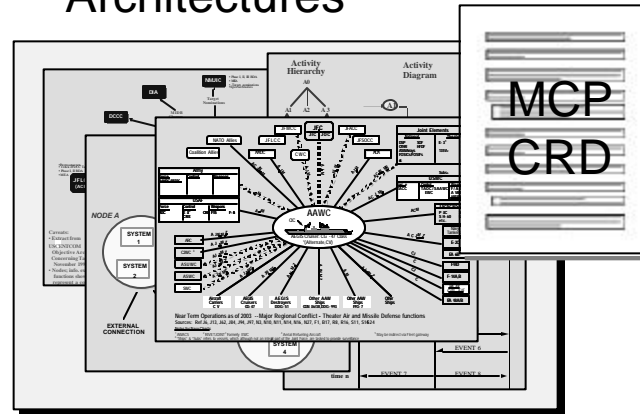
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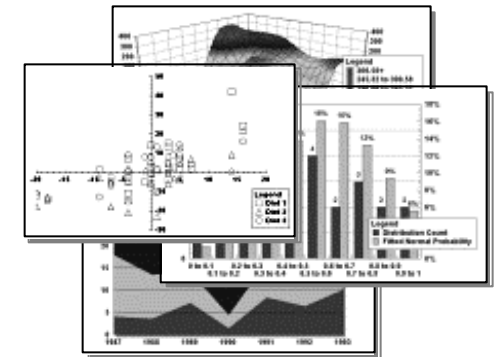
Concepts & CONOPS



Integrated Architectures + CRDs



System-of Systems AOA



Implementation analysis and trade-offs

- What are the operational performance-cost-schedule trades?
- What are the viable alternative paths to implementing the capability?
- What are the long-term effects on the shape of the architecture / capability?

Refined systems requirements

- SRD, systems architecture(s), etc.

Strategic
Plan



Basic Approach We're Taking

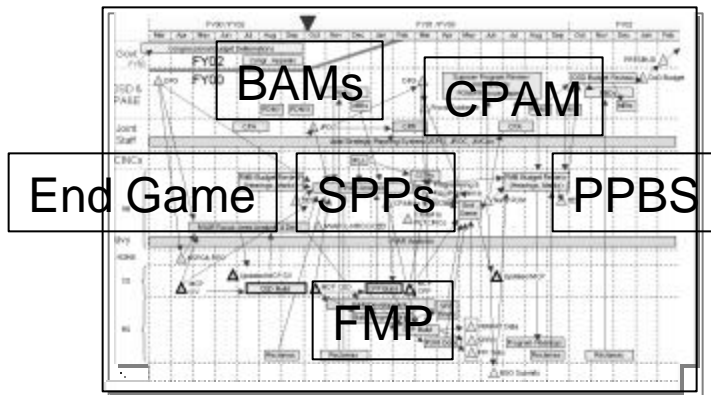
MCP Requirements Integration

Concept

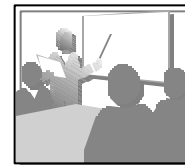
- The Strategic Business Plan for implementing the capability
- What specific implementation alternatives should we consider?
- What specific capability objectives? What time-frame?
- What contributes to each objective (platforms, programs, systems, technologies, training, support, etc.)?
- How to we time-phase the implementation?
- What specific changes to the POR?
- How do we propose to resource each change?
- What are the priorities?

AOAs

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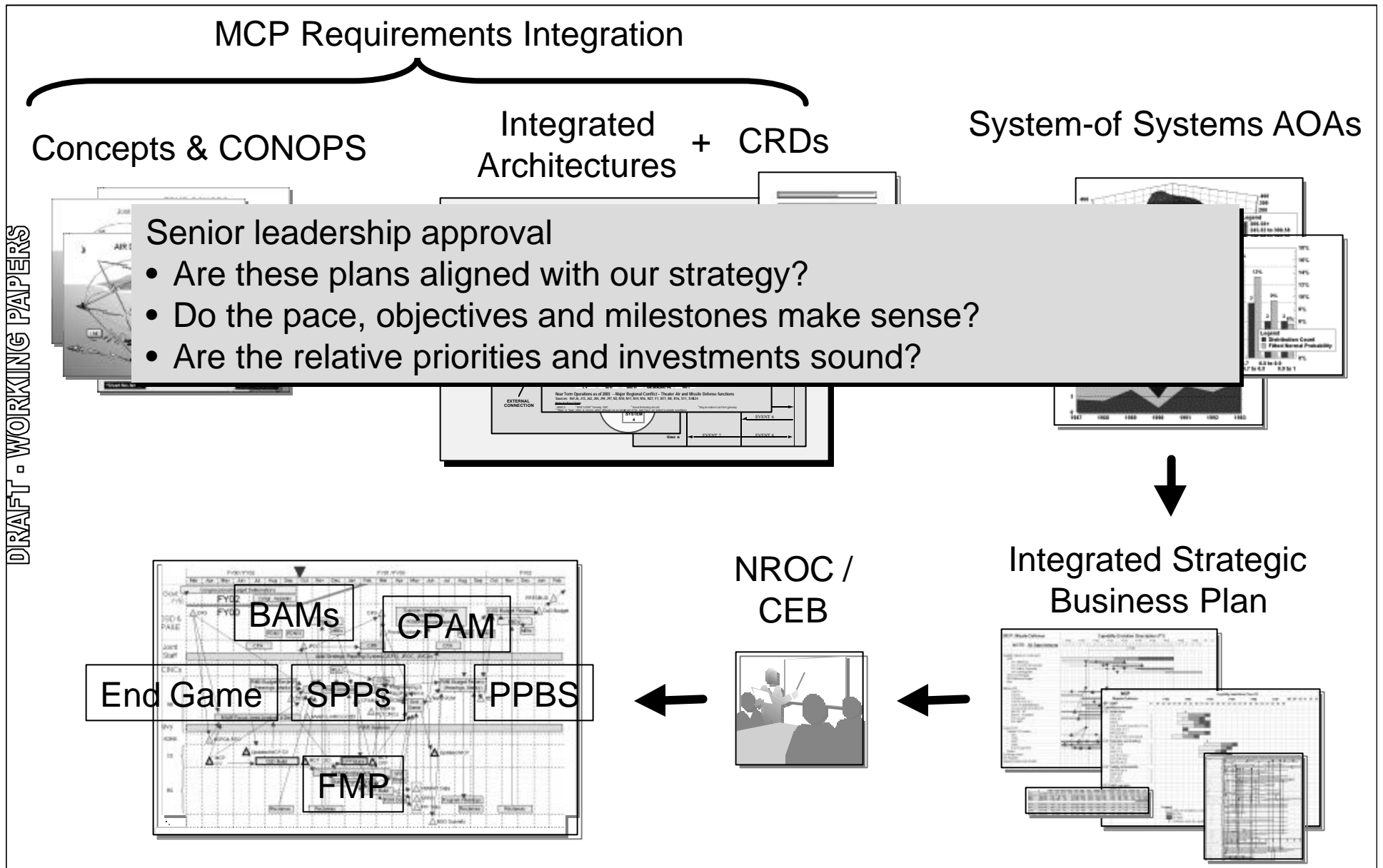
NROC /
CEB



Integrated Strategic
Business Plan



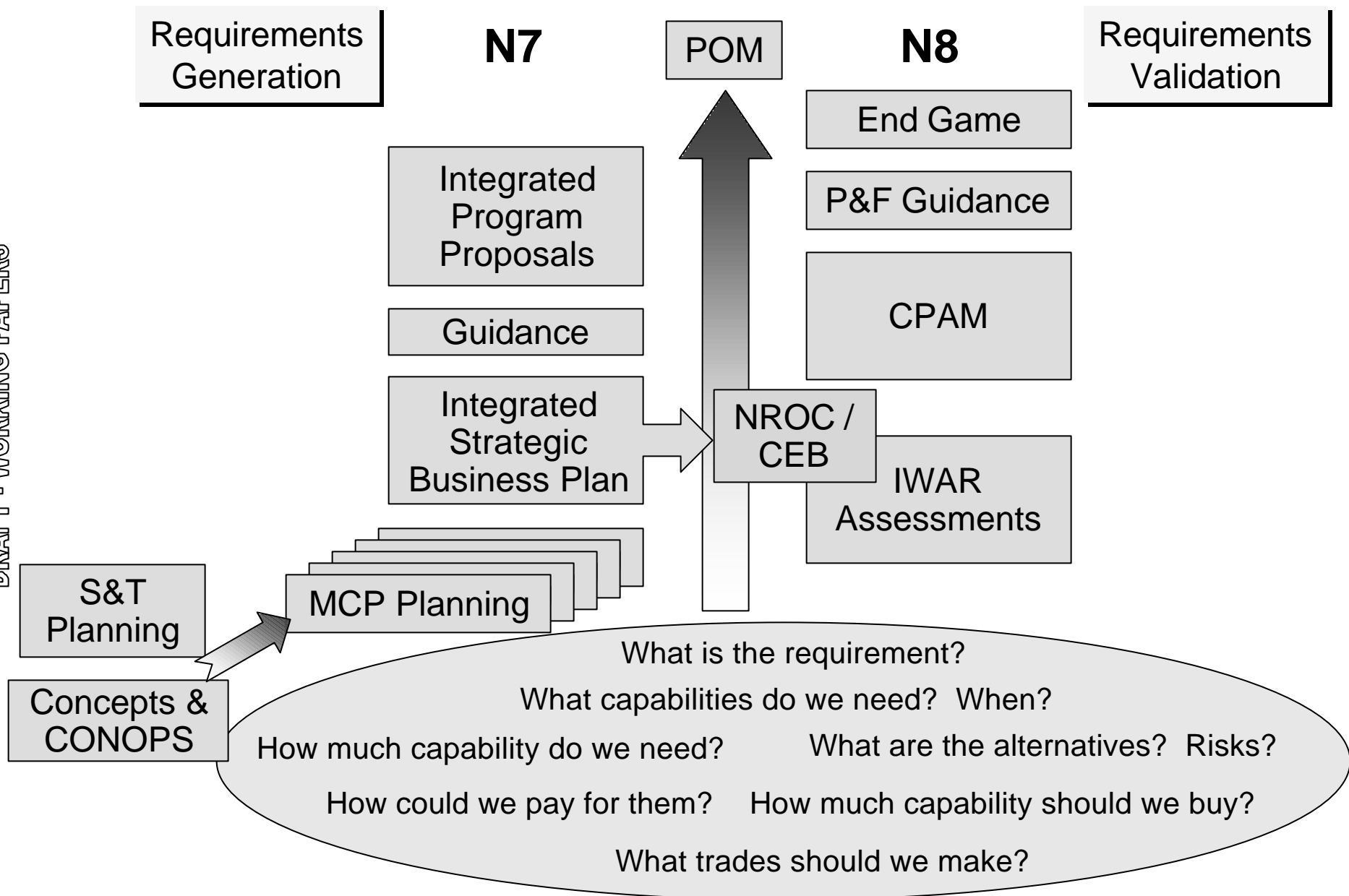
Basic Approach We're Taking



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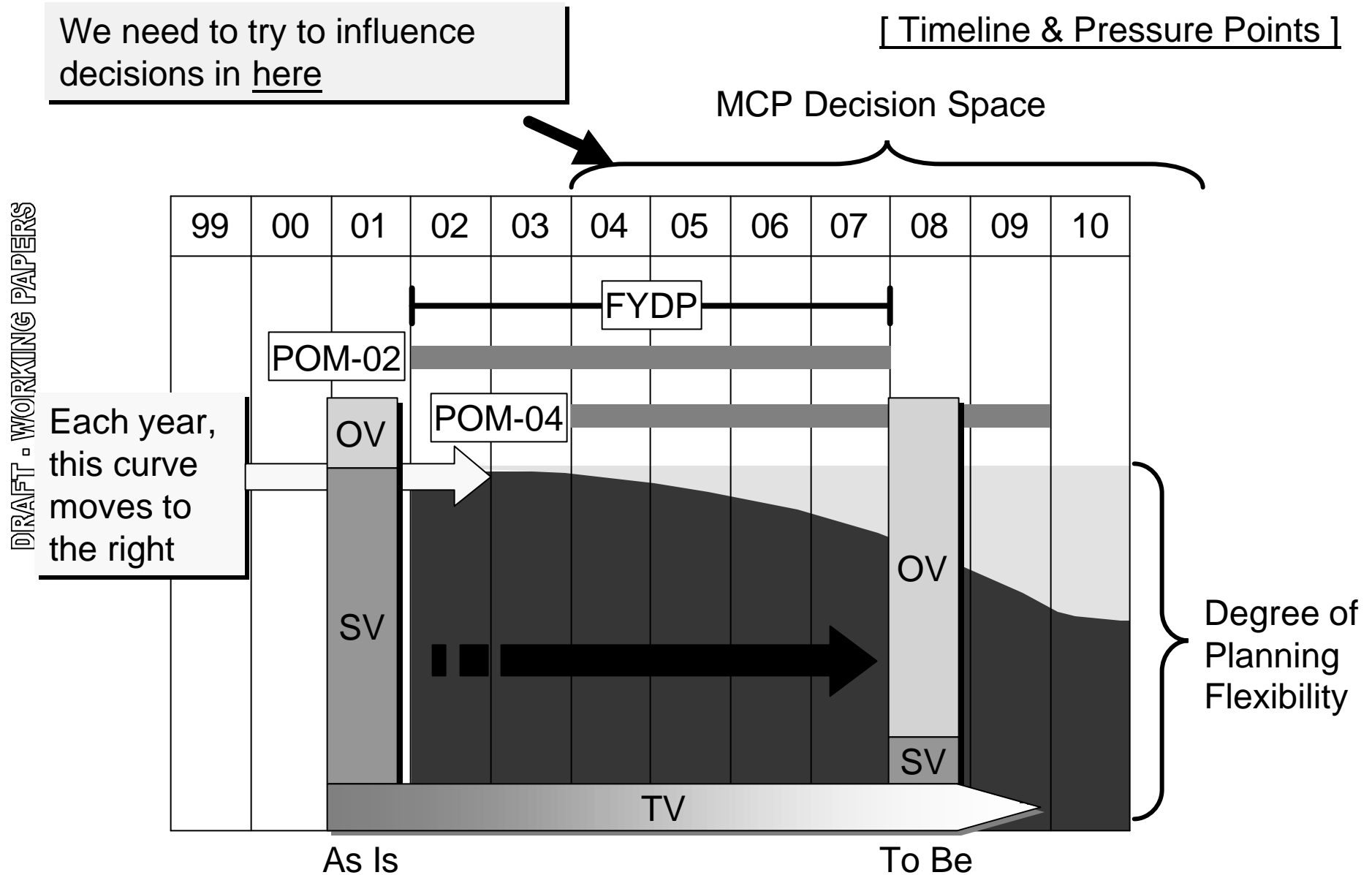
Changes to The Status Quo (OPNAV)

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Architecture/CED Influence Time Frame

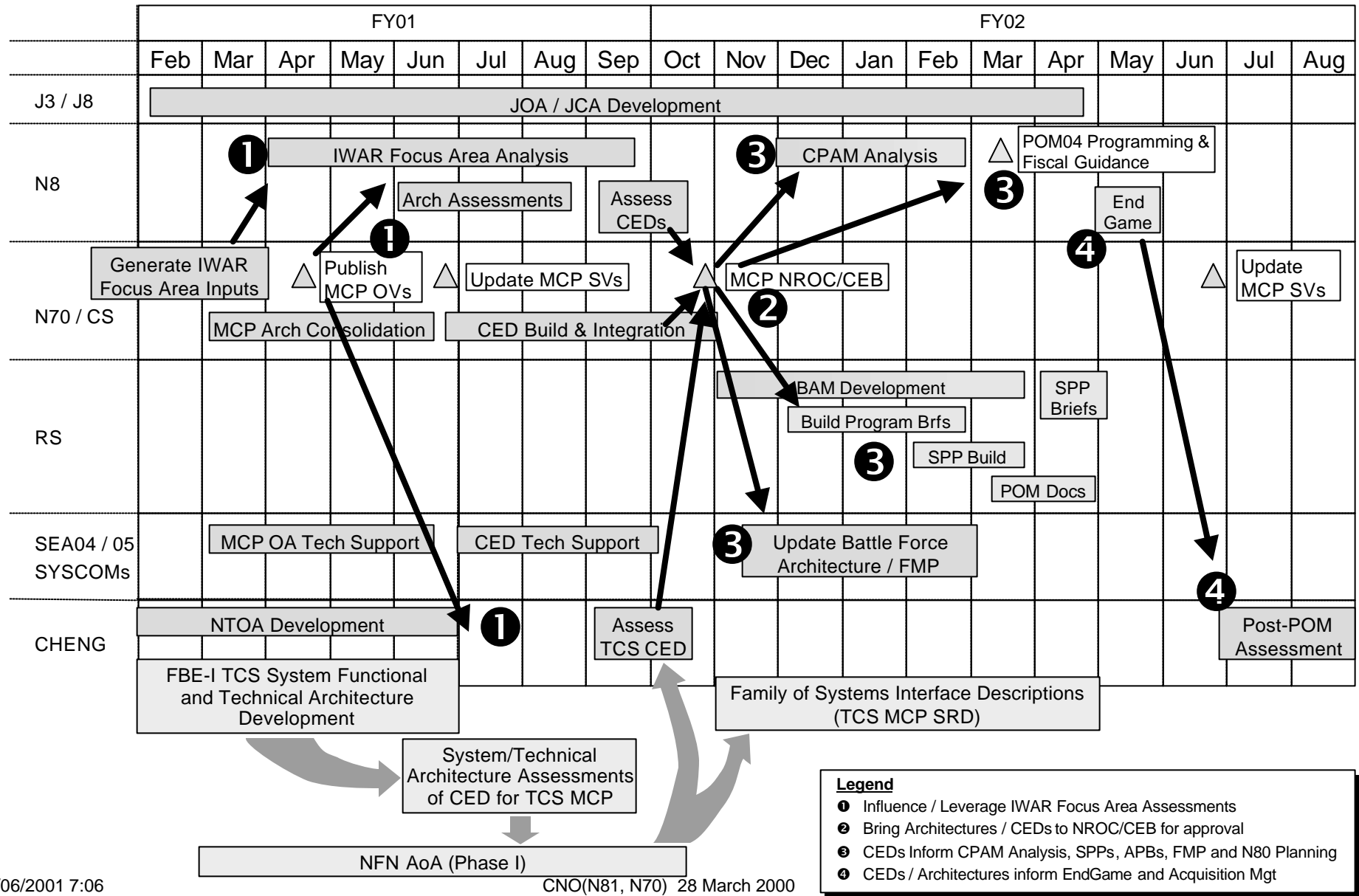
(Assuming the current planning target is POM-04)



Timeline and Pressure Points

(TCS example, assuming the current planning target is POM-04)

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What Budget Are You Working On Today?

The Lure of the "Quick Kill"

All these processes are happening concurrently

Execution: FY01

In Congress: POM-02

Service Programming: PR-03



Service Planning & Assessment: POM-04

What interoperability planners should be trying to effect / affect today

Changes or directives applied "above" POM-04

(in the absence of some overarching plan or context)

risk breaking or invalidating

- Previous coordination or integration
- Previously set priorities
- Program or resource synchronization or alignment

Questions?